

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow.

I. Status of Claims

No claims are amended, cancelled or added. Thus, claims 1-2 and 11-36 remain pending. Of these claims, claims 13-36 remain withdrawn.

II. Drawings

Applicants note that the Office did not check box 10(a) on form PTOL-326 (Rev. 08-06) or otherwise indicate acceptance of the drawings filed September 29, 2006. Applicants respectfully request that the Office accept the drawings filed September 29, 2006 in the next communication to Applicants' agent.

III. The 35 U.S.C. § 103 Claim Rejection Should Be Withdrawn

The Office Action rejects claims 1-2 and 11-12 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Published Application No. 2005/0093455 ("Tamura"). Tamura fails to disclose, teach or suggest all the elements of the claimed invention.

Claim 1 calls for a vacuum tube having a reduced-pressure vessel that comprises, among other things, at least a discharge gas and at least one electron wherein "the number of water molecules adsorbed on an inner wall of said reduced-pressure vessel is not greater than 1×10^{16} molecules/cm²." Tamura fails to disclose, teach or suggest such a vacuum tube.

The Office Action acknowledges that "Tamura does not specifically disclose the number of water molecules absorbed on an inner wall of the reduced pressure vessel is not greater than 1×10^{16} molecules/cm³," but asserts that "it is widely known in the art to reduce water molecules absorbed on an inner wall because higher water molecules would deteriorate layers such as phosphor layers which would reduce the reliability of the lamp" (Office Action at p. 3).

Claim 1, however, calls for the number of water molecules that are **adsorbed** on an inner wall of a reduced-pressure vessel to not be greater than 1×10^{16} molecules/cm² and does **not** call for the number of water molecules that are **absorbed** on an inner wall of a reduced-pressure vessel to not be greater than 1×10^{16} molecules/cm². As provided in the attached pages from the McGraw-Hill Dictionary of Scientific and Technical Terms, absorption” means “[t]he taking up of matter in bulk by other matter, as in dissolving of a gas by a liquid” while “adsorption” means “[t]he surface retention of solid, liquid, or gas molecules, atoms, or ions by a solid or liquid, as opposed to absorption, the penetration of substances into the bulk of the solid or liquid” (The McGraw-Hill Companies, McGraw-Hill Dictionary of Scientific and Technical Terms 8, 38 (Sybil P. Parker, 5th ed. 1993)). Accordingly, the Office Action incorrectly equates the meaning of the word “adsorb” with that of “absorb.”

Tamura’s disclosure is directed to using a raw material of a metal halide containing water in the amount of 100 ppm or less. (Tamura at ¶ [0061]) Tamura does not disclose, teach or suggest adsorption of water molecules onto an inner wall of a reduced-pressure vessel or absorption of water molecules into an inner wall of a reduced-pressure vessel or reducing the number of water molecules to 1×10^{16} /cm² or less.

The Office Action contends that “it is widely known in the art to reduce water molecules absorbed on an inner wall” but fails to provide any evidence that supports this contention. This contention is directly contradictory to the M.P.E.P. which provides that “assertions of...specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art” (M.P.E.P. § 2144.03(A)).

For at least the aforementioned reasons, the rejection of claim 1 is improper. Claims 2 and 11-12 depend from claim 1 and are allowable, therewith, for at least the reasons that claim 1 is allowable in addition to its respective recitations.

CONCLUSION

Applicants believe that the present application is in condition for allowance. Favorable reconsideration of the application is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

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By



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